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In re Application of

Ching-Wu Chu,

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07/012205 FWX 07/300063 2/6/87

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(12) **United States Patent**
Chu

(10) **Patent No.:** **US 7,056,866 B1**
(45) **Date of Patent:** **Jun. 6, 2006**

(54) **SUPERCONDUCTIVITY IN
SQUARE-PLANAR COMPOUND SYSTEMS**

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(*) Notice: Subject to any disclaimer, the term of this
patent is extended or adjusted under 35
U.S.C. 154(b) by 785 days.

(21) Appl. No.: **07/032,041**

(22) Filed: **Mar. 26, 1987**

Related U.S. Application Data

(63) Continuation-in-part of application No. _____ which is a
continuation-in-part of application No. 07/006,991,
filed on Jan. 26, 1987, now abandoned, which is a
continuation-in-part of application No. 07/002,089,
filed on Jan. 12, 1987, now abandoned.

(51) **Int. Cl.**

C04B 101/00 (2006.01)

H01L 39/12 (2006.01)

H01B 12/00 (2006.01)

(52) **U.S. Cl.** **505/125; 505/126; 505/490;
505/500; 505/780**

(58) **Field of Classification Search** **252/520,
252/521, 518; 423/263, 593; 501/104, 108,
501/123, 126, 135, 152; 29/599; 420/901;
428/930; 505/100, 125, 126, 779, 780, 490,
505/500**

See application file for complete search history.

(56) **References Cited**

U.S. PATENT DOCUMENTS

4,045,375 A * 8/1977 Komatsu 252/519
4,316,785 A * 2/1982 Suzuki 204/192.24
4,357,426 A * 11/1982 Murata et al. 501/135
4,482,644 A * 11/1984 Beyerlein 502/303
4,503,166 A * 3/1985 Beyerlein 502/303
4,645,622 A * 2/1987 Kock 252/521

OTHER PUBLICATIONS

Michel, C. et al., "The Oxygen Defect Perovskite Ba La₄ Cu₅ O_{13.4}, A Metallic Conductor", *Mat. Res. Bull.*, vol. 20, pp 667-671 (1985).*

Nguyen, N. et al., "Oxygen Defect k₂ NiF₄—Type Oxides: The Compounds La_{2-x}Sr_xCuO_{4x/2+d}", *J. Solid State Chem.*, 39, 1981, pp 120-127.*

Shaplygin, I.S. et al. "Preparation and Properties of The Compounds Ln₂CuO₄ (Ln= La, Pr, Nd, Sm, Eu, Gd) and Some of Their Solid Solutions", *Russian Journal of Inorganic Chem.*, 24 (6), pp820-824, 1979.*

Rhyne, J.J., et al., "Phonon Density of Superconducting YBa₂Cu₃O₇ and The Non-Superconducting Analogy Ba₂Cu₃O_{6.5}", *Physical Review B*,.*

Bednorz et al "Possible High Tc Superconductivity in the Ba-La-Cu-O System", *Z. Phys. B*, pp 189-193, 1986.*

Michel et al "The Oxygen Defect Perovskite BaLa₄Cu₅O_{13.4} . . .", *Mat. Res. Bull.*, vol. 20, 667-671, 1985.*

* cited by examiner

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(57) **ABSTRACT**

Described is a superconducting composition comprising an oxide complex of the formula [L_{1-x}M_x]_aA_bO_y, wherein L is lanthanum, lutetium, yttrium, or scandium; A is copper, bismuth, titanium, tungsten, zirconium, tantalum, niobium, or vanadium; M is barium, strontium, calcium, magnesium or mercury; and "a" is 1 to 2; "b" is 1; and "x" is a number in the range of 0.01 to 1.0; and "y" is about 2 to about 4. The oxide complexes of the invention are prepared by a solid-state reaction procedure which produces an oxide complex having an enhanced superconducting transition temperature compared to an oxide complex of like empirical composition prepared by a coprecipitation—high temperature decomposition procedure. With an oxide complex prepared by the solid-state reaction of the invention a transition temperature as high as 100°K has been observed even under atmospheric pressure.

15 Claims, 5 Drawing Sheets

